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1.9622 CQ F51

UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE

CALIFORNIA FOREST AND RANGE EXPERIMENT STATION

ADDRESS REPLY TO DIRECTOR AND REFER TO



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RS-CAL
FIRE
Control
Statistics

January 2., 1940

FIRES ON THE NATIONAL FORESTS OF SOUTHERN CALIFORNIA
NITH RESPECT TO FINAL BREA AND DISTANCE TRAVELED
BY THE SUPPRESSION CREW OF FOOT

The purpose of the accompanying tabulations is to show more precisely the degree to which fire occurrence is associated with roads. The desirability, from a technical standpoint, of expressing such a relation in numbers rather than in generalizations is plainly evident.

General

It is believed that the distance traveled on foot" to a fire on the Angeles, San Bernardino, and Claveland Mational Forests fairly represents the distance that the fire was from a road. This may or may or may not be true on the Los Padres because of the provalence of horse travel in some parts of it. For this reason the tabulations referring to fires on the Los Padres have been kept separate in the present report.

Throughout the tables the area burned by "B" fires has been reglect ed. For the years concerned this emission amounts to less than 2 per cent of the total area burned on any forest.

Man-caused fires

As shown in table 1, 69 per cent of the area burned by man-caused fires on the Angeles, San Bernardino and Cleveland National Forests comes from fires originating within 264 feet of a driveable road; 78 per cent of the burned area comes from fires within 792 feet of a road, and 88 per cent of the burned area from fires originating within 0.25 miles of a road. Corresponding percentages of numbers of all fires and fires of different sizes are shown in the same table.

These data indicate:

- 1. The importance of front yard fires in total area burned.
- 2. The flasibility of tanker attack.

The Los Padres, according to table 2, presents a different pictur. Here but 60 per cent of all fires can be reached by 264 feet or less foot travel and but 31 per cent of the man-caused area burned is

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thereby accounted for. Another obvious limitation on the interpretation of Los Padres data has been previously mentioned. In any event, however, it is believed that different public habits of foot travel in relation to roads and trails on the Los Padres are apparent.

Lightning fires

Though lightning fires are of minor importance from an area burned standpoint, tables 6 and 7 are included to show the relative amount of footwork necessary to reach such fires. In addition, it is believed the data indicate the less severe burning conditions prevalent during and following thunderstorms because of the relatively large numbers of fires with longer walking distances yet very few spreading to 10 acres or larger. While the lightning fire problem is not to be dismissed as inconsequential it can nevertheless probably have more leniont standards of action.

C. A. ABELL Associate Silviculturist



Table 1.- Angeles, 5 n Bernardine, and Cleveland M tional Forests

| lan-caused fires according to distance traveled on foot by suppression force, by class of fire. | Years 1934-1938, inclusive

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Distance trav- cled on foot					: : No.		fires Aren			l fires
Tiles	No.	Cumula- tod %	No.	Cumula- tod %	No.	Cumula- ted %		Cumula- ted /s	No.	Curula- tcd /
0.26 - 0.35	390 56 24 3	81 92 97 98	72 12 6 1	6 7 78 84 85	5 1 2 4	77 80 86	41,271 5,875 5,667		513 70 34 4	78 89 94 95
0.36 - 0.45 0.46 - 0.55 0.56 - 0.65	3	98	5	90	2	89	5,580	94	10	96
0.66 - 0.75 0.76 - 0.85 0.86 - 0.95	2	99			1	91	11	94	5	96
0.96 - 1.95 1.96 - 2.95 2.96 - 3.95 3.96 - 4.95 4.96 - 5.95 5.96 - 6.95 6.96 - 7.95	2 2	99 100	6 3 1 1	95 98 99 100	3 1 1	96 97 98	2,458 100 300	98 98 99	13 8 2 1	98 99 99
6.96 - 7.95 7.96 - 8.95 8.96 - 9.95 9.96 + Unknown					1	100	885	100	1	100
Total	£8£	100	107	100	66	100	60,147	100	657	100

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Table 2.- Los Padres National Forest

Man-caused fires according to distance traveled
on foot by suppression force, by class of fire.

Years 1934-1938, inclusive.

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istance trav- led on foot										
Miles	lo. Cur	nula- No ed %		nula- ed %		Cumula- ted %		Cumula- tod %		Cumula- ted /
0.06 - 0.15	42	31	Z. (51 58 76	12 2		*	3 1 41	75 11 5	6 0 69 7 3
0.56 - 0.45 0.46 - 0.55 0.56 - 0.65	5 (7 8 85	1		72 5,112	42 85	2	74 84
0.66 - 0.75 0.76 - 0.85 0.86 - 0.95					1	67	30	85		85
0.96 - 1.95 1.96 - 2.95 2.96 - 3.95 3.96 - 4.95	1 9] :	90)3)8	1 2 1 3	70 77 80 90	640 410 60 403	90 94 94 97	4 5 S	88 90 93 96
4.96 - 5.95 5.96 - 6.95	1 1	98	<u> </u>						L	97 98 98
6.96 - 7.95 7.96 - 8.95 8.96 - 9.95 9.96 + Unknown						93 100	120 190	98 100	上 ?	100
Total	54 10)0 4:	1 10	00	30	100	11,987	100	125	100

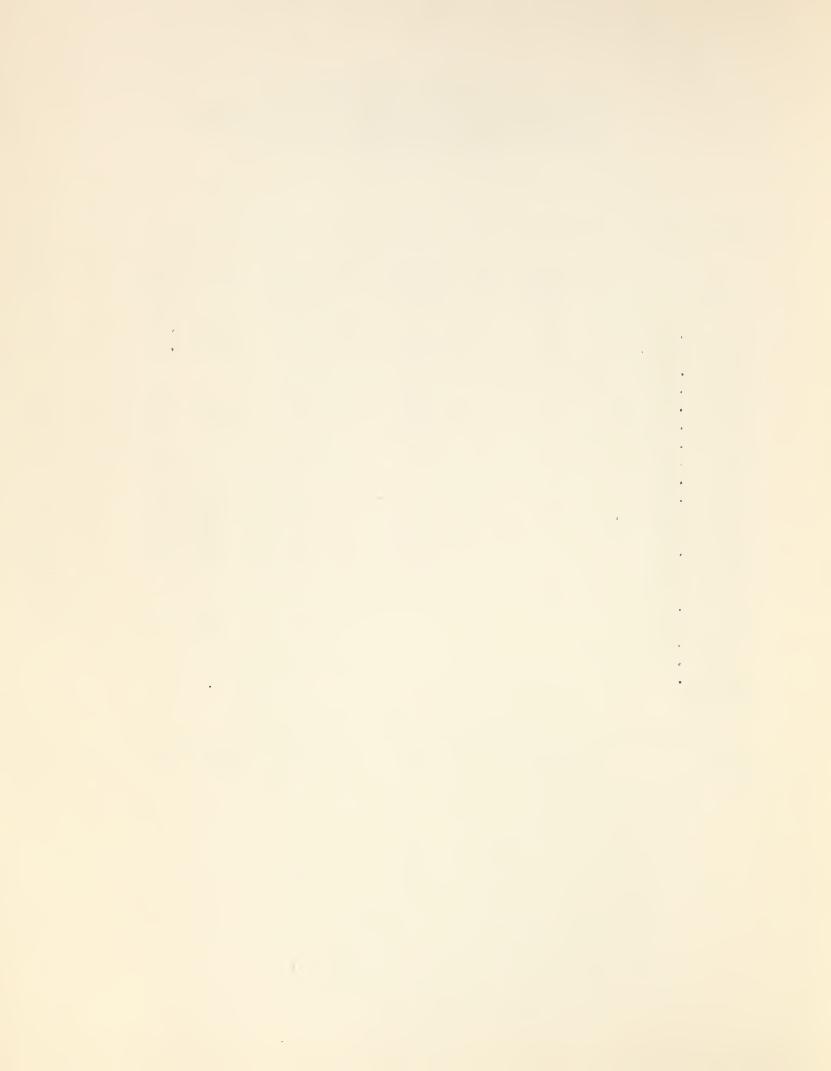


Table 3.- Angeles Mational Forest Man-caused fires according to distance traveled on feet by suppression force, by class of fire Years 1934-1938, inclusive.

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istance trav- led on foot					: C fires : No.of fires Area burned				: All fires : Fo.of fires		
Miles		Cumula- ted %		Curula- ted %				Cumula- tod //	No.	Cunula- ted %	
0.00 - 0.05 0.06 - 0.15 0.16 - 0.25 0.26 - 0.35 0.36 - 0.45	99 24 5 2	74 92 95 9 6	18 4 2	56 69 75	20	87	11,696	72	137 20 5 2	73 88 90 91	
0.46 - 0.55 0.56 - 0.65			2	Conf	1	91	3,550	94	5	93	
0.66 - 0.75 0.76 - 0.85 0.66 - 0.95	2	98			1	96	11	95	5	95	
0.96 - 1.95 1.96 - 2.95 2.96 - 3.95 3.96 - 4.95 4.96 - 5.95 5.96 - 6.95 6.96 - 7.95	2	99 100	3 2 1	9 1 97 100					5 2 1	97 99 99	
7.96 - 8.95 8.96 - 9.95 9.96 + Unknown					1	100	885	100		10/)	
Potal	1.33	100	32	100	25	1.00	10,148	100	188	200	



Table 4.- San Bernardino National Forest

Man-caused fires according to distance traveled on foot by suppression force, by class of fire.

Years 1934-1938, inclusive.

Distance trav- eled on foot								burned		
liles		Cumula- ted %	No.	Cumula- ted /2		Cumula- ted %		Cumula- ted %		Curula- ted %
0.06 - 0.15 0.16 - 0.25 0.36 - 0.35	22	81 90 97	24 4 2	67 78 83	9 2 1	79	13,241 5,875 25		218 28 19	78 83 95
0.36 - 0.45 0.46 - 0.55 0.56 - 0.65 0.66 - 0.75 0.76 - 0.85 0.36 - 0.95	5	99	3	92					6	97
	₩ P-1	99 100	2	97	2	100	58	100	6 1	99 99
3.96 - 4.95 4.96 - 5.95 5.96 - 6.95 6.96 - 7.95 7.96 - 8.95 8.96 - 9.95 9.96 + Unknown			1	100					1	100
Total	229	100	36	100	14	100	19,199	100	279	160



Table 5.- Cleveland National Forest
Lan-caused fires according to distance traveled
on foot by suppression force, by class of fire.

Years 1934-1938, inclusive.

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Distance traves	A fires : Po.ef fires :				: : No.c	C í of fires		: All fires : Mc.of fires		
Hiles	No.	Cumula- ted %	No.	Cumula- ted %	170.	Cumula- ted %	Acres	Cumula- ted %		Cumula- ted %
	106 10	87 95	30 4	7 7 87	22	76	16,334	66	158 14	83 91
	5 1	99 100	2	92 95	3	86	5,642	89	10 2	96 97
0.46 - 0.55 0.56 - 0.65 0.66 - 0.75 0.76 - 0.85 0.86 - 0.95					1	90 -	30	89	1	97
0.96 - 1.95 1.96 - 2.95			1	97 100		93 97	2,400 100		2	
2.96 - 3.95 3.96 - 4.95 4.96 - 5.95 5.96 - 6.95 6.96 - 7.95 7.96 - 8.95 8.96 - 9.95 5.96 + Unknown					1	100	300	100	2	
Total	122	100	39	100	29	100	24,806	100	190	100



Table 6.- Angeles, San Bernardino, and Cleveland Mational Forests

Lightning fires according to distance traveled

on foot by suppression force, by class of fire.

Years 1934-1938, inclusive.

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Distance trav- :							All fires No.of fires			
lilos		ted %	No.	Cumula- ted %		Cumula- tcd %		Cumula- tod /3	No.	Cumula- ted /
· · · · · · · · · · · · · · · · · · ·	65 23 18 7 2	26 35 42 45 46 59	10 2 3 1	20 24 30 32 40	1	50	80	80	76 25 21 8 2	25 33 40 43 44 56
	2	60 60	2	laka					<u>.</u>	57 57
5.96 - 6.95 6.96 - 7.95	37 19 11 13 4 8 4 1	75 82 87 92 94 97 98 99	10 6 4 1 2 1 1	64 76 84 86 90 92 94 96	1	100	20	100	48 25 15 14 9 5 1	73 82 86 91 93 96 68 98 100
Total	251	100	50	100	2	100	100	100	303	106



Table 7.- Los Padres Fation 1 Forest.
Lightning fires according to distance traveled on foot by sup ression force, and class of fire.
Years 1934-1938, inclusive.

Distance trav- cled on foot								burned		
liiles		Cumula- tod %		Cumula- ted %				Cumula- ted %		
0.00 - 0.05 0.06 - 0.15 0.16 - 0.25 0.26 - 0.35 0.36 - 0.45 0.46 - 0.55 0.56 - 0.65 0.68 - 0.75 0.76 - 0.85 0.36 - 0.95	4 3 2 1	19 33 43 48 52	1	17					5 3 1 1	15 24 30 33 36
0.96 - 1.95 1.96 - 2.95 2.96 - 3.95 5.96 - 4.95	7	86	_	67 100	1 2 1		15 28 40 2,000	· <u>.</u>	11 1 1	70 82 85 88
4.96 - 5.95 5.96 - 6.95 6.96 - 7.95 7.96 - 8.95 8.96 - 9.95	1	90 95			1	100	·	100	2	91 97
Unknown	1	100							1	100
Total	21	100	6	100	5	100	2,124	100	33	100

